

CLAIMS

1. A medical equipment autoclaving system comprising a communication vent through which the inside of medical equipment and the outside thereof communicate with each other, a pressure adjusting means that includes a check valve which opens only when the pressure in the inside of the medical equipment which communicates with the outside thereof through the communication vent gets higher than the pressure in the outside thereof by a certain value or more, and an autoclave that sterilizes the medical equipment, wherein:

the autoclave is designed to execute:

a first depressurization process including a step of depressurizing the inside of a chamber included in the autoclave;

an autoclaving process which succeeds the first depressurization process and in which the chamber is pressurized; and

a second depressurization process succeeding the autoclaving process and including a step of depressurizing the chamber, wherein:

the pressure attained at at least one depressurizing step included in the second depressurization process is lower than the lowest pressure attained in the first depressurization process.

2. A medical equipment autoclaving system according to Claim 1, wherein the second depressurization process includes a plurality of depressurizing steps and a plurality of pressurizing steps, and the pressure attained at at least one of the depressurizing steps is lower than the pressure attained at other depressurizing step preceding the depressurizing step.

3. A medical equipment autoclaving system according to Claim 1, wherein the medical equipment includes an armor member designed to shut out the inside of the medical equipment from the outside thereof and made of a material having softness.

4. A medical equipment autoclaving system according to Claim 3, wherein the medical equipment is an endoscope having a bending section that is formed adjacently to the distal section of an insertion unit, which is inserted into an object, so that it can be bent, and an armor member used to sheathe the bending section and made of a material having softness.

5. A medical equipment autoclaving system according to Claim 1, wherein the medical equipment has the communication vent formed so that the communication vent can be forcibly unblocked after the completion of the second depressurization process.

6. A medical equipment autoclaving method comprising:

a first depressurization process including a step of depressurizing a chamber included in an autoclave in which medical equipment is stored;

an autoclaving process which succeeds the first depressurization process and in which the chamber is pressurized; and

a second depressurization process succeeding the autoclaving process and including a step of depressurizing the chamber, wherein:

the pressure attained at at least one depressurizing step included in the second depressurization process to be executed by the autoclave is lower than the lowest pressure attained in the first depressurization process.

7. A medical equipment autoclaving method according to Claim 6, wherein:

the medical equipment includes a communication vent through which the inside of the medical equipment and the outside thereof communicate with each other, and a pressure adjusting means having a check valve that opens only when the pressure in the inside of the medical equipment, which communicates with the outside thereof through the communication vent, gets higher than the pressure in the outside thereof by a certain value or more; and

the first and second depressurization processes include a step of forcibly unblocking the communication vent so as

to permit the inside of the medical equipment to communicate with the outside thereof.

8. A medical equipment autoclaving method according to Claim 7, wherein the medical equipment includes an armor member designed to shut out the inside of the medical equipment from the outside thereof and made of a material having softness.

9. A medical equipment autoclaving method according to Claim 8, wherein the medical equipment is an endoscope having a bending section that is formed adjacently to the distal section of an insertion unit, which is inserted into an object, so that it can be bent, and an armor member used to sheathe the bending section and made of a material having softness.

10. A medical equipment autoclaving method according to Claim 7, wherein the medical equipment is formed so that the communication vent can be forcibly unblocked to permit the inside of the medical equipment to communicate with the outside thereof after the completion of the second depressurization process.

11. A medical equipment autoclaving method according to Claim 6, wherein the second depressurization process includes a plurality of depressurizing steps and a plurality of pressurizing steps, and the pressure attained at at least one of the depressurizing steps is lower than the pressure

attained at other depressurizing step preceding the depressurizing step.

12. A medical equipment autoclave for sterilizing medical equipment, the medical equipment autoclave comprising a chamber that can be sealed with the medical equipment, which is an object of sterilization, stored therein, a vacuum pump used to lower the pressure in the inside of the chamber, a steam feeder that feeds steam into the chamber, and a control unit that controls the actions of the vacuum pump and steam feeder, wherein:

the control unit executes:

a pre-vacuum process for depressurizing the inside of the chamber by activating the vacuum pump;

an autoclaving process for after the pre-vacuum process is completed by inactivating the vacuum pump, feeding steam into the chamber by activating the steam feeder, and thus pressurizing the inside of the chamber; and

a dry process for after the autoclaving process is completed by inactivating the steam feeder, depressurizing the inside of the chamber by activating the vacuum pump, and thus drying the medical equipment stored in the chamber, wherein:

the control unit controls the action of the vacuum pump so that the lowest pressure attained in the dry process will be lower than the lowest pressure attained in the pre-vacuum

process.

13. A medical equipment autoclave according to Claim 12, wherein:

the medical equipment includes a communication vent through which the inside of the medical equipment and the outside thereof communicate with each other, and a pressure adjusting means having a check valve that opens only when the pressure in the inside of the medical equipment which communicates with the outside thereof through the communication vent gets higher than the pressure in the outside thereof by a certain value or more; and

the dry process includes a plurality of depressurizing steps, and steps each of which succeeds the depressurizing step and at which the communication vent of the medical equipment is forcibly unblocked to permit the inside of the medical equipment to communicate with the outside thereof.

14. A medical equipment autoclave according to Claim 13, wherein the medical equipment includes an armor member used to shut out the inside of the medical equipment from the outside thereof and made of a material having softness.

15. A medical equipment autoclave according to Claim 14, wherein the medical equipment is an endoscope having a bending section that is formed adjacently to the distal section of an insertion unit, which is inserted into an object, so that it can be bent, and an armor member used to

sheathe the bending section and made of a material having softness.

16. A medical equipment autoclave according to Claim 12, wherein the control unit executes the plurality of depressurizing steps and the plurality of pressurizing steps within the dry process, and controls the action of the vacuum pump so that the lowest pressure attained at at least one of the depressurizing steps will be lower than the lowest pressure attained at other depressurizing step preceding the depressurizing step.

17. A medical equipment autoclave according to Claim 12, wherein after the completion of the dry process, the communication vent of the medical equipment is forcibly unblocked to permit the inside of the medical equipment to communicate with the outside thereof.

18. A medical equipment autoclaving method comprising:
a pre-vacuum process for lowering the pressure in the inside of a chamber, in which medical equipment that is an object of sterilization is stored, using a vacuum pump;
an autoclaving process for after the completion of the pre-vacuum process, feeding steam into the chamber by activating a steam feeder that feeds steam into the chamber, and thus pressurizing the inside of the chamber so as to sterilize the medical equipment; and
a dry process for after the completion of the

autoclaving process, depressurizing the inside of the chamber by activating the vacuum pump, and thus drying the medical equipment stored in the chamber, wherein:

the action of the vacuum pump is controlled so that the lowest pressure attained in the dry process will be lower than the lowest pressure attained in the pre-vacuum process.

19. A medical equipment autoclaving method according to Claim 18, wherein:

the medical equipment includes a communication vent through which the inside of the medical equipment and the outside thereof communicate with each other, and a pressure adjusting means having a check valve that opens only when the pressure in the inside of the medical equipment that communicates with the outside thereof through the communication vent gets higher than the pressure in the outside thereof by a certain value or more; and

the dry process includes a plurality of depressurizing steps and steps each of which succeeds the depressurizing step and at which the communication vent of the medical equipment is forcibly unblocked to permit the inside of the medical equipment to communicate with the outside thereof.

20. A medical equipment autoclaving method according to Claim 19, wherein the medical equipment includes an armor member used to shut out the inside of the medical equipment from the outside thereof and made of a material having

softness.

21. A medical equipment autoclaving method according to Claim 20, wherein the medical equipment is an endoscope including a bending section that is formed adjacently to the distal section of an insertion unit, which is inserted into an object, so that it can be bent, and an armor member used to sheathe the bending section and made of a material having softness.

22. A medical equipment autoclaving method according to Claim 18, wherein the dry process further includes a plurality of depressurizing steps and a plurality of pressurizing steps, and the lowest pressure attained at at least one of the depressurizing steps will be lower than the lowest pressure attained at other depressurizing step preceding the depressurizing step.

23. A medical equipment autoclaving method according to Claim 19, comprising a process for after the completion of the dry process, forcibly unblocking the communication vent of the medical equipment so as to permit the inside of the medical equipment to communicate with the outside thereof.